

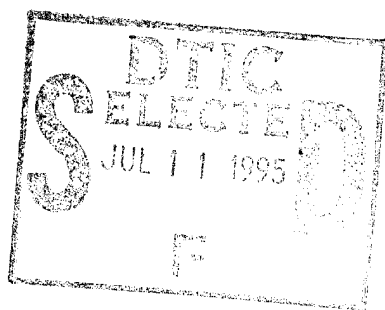
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**THE 54TH FORWARD SUPPORT BATTALION  
IN DESERT SHIELD/DESERT STORM**

BY

**LIEUTENANT COLONEL ROSLYN M. GOFF**  
United States Army



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### THE 54TH FORWARD SUPPORT BATTALION IN DESERT SHIELD/DESERT STORM

AN INDIVIDUAL STUDY PROJECT

BY

Lieutenant Colonel Roslyn M. Goff

PROJECT ADVISER:  
Dr. Doug Johnson

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# THE 54TH FORWARD SUPPORT BATTALION IN DESERT SHIELD/DESERT STORM

## I. INTRODUCTION:

From May 31, 1989 to June 6, 1991, I commanded the 54th Forward Support Battalion (FSB) supporting Third Brigade, Third Armor Division in Friedberg, Germany. This great battalion has many achievements to its credit but none so outstanding as its performance in the Southwest Asian Theater of Operations from early January to mid June 1991.

I write this monograph for several reasons. First, to give due credit to the incredible courage and determination of the soldiers who never failed to surprise me with what they accomplished in the most trying of circumstances. Second, to illustrate that there is no substitute for training in preparation for war. Lastly, to discuss several logistic issues that require the attention of the Army's leadership.

I discuss the experience from the perspective of a forward deployed CSS commander. Therefore, a good deal of the discussion focuses on logistics rather than the details of battle. However, Appendix A provides a general timeline that may aid the reader. At Appendix B is the VII Corps Deployment and Plan of attack in which Third Armor Division participated. It will help place the reader geographically. At Appendix C are the graphics of the Third Armor Division's campaign, Operation Desert Spear 24-28 February 1991.

The soldiers of the 54th Support Battalion entered the Southwest Asian campaign expecting to face a formidable foe. They appreciated that their placement on the battlefield meant personal danger. While these remarkable soldiers were apprehensive about the unknown and anxious to support the brigade as best they could, they were unafraid. They were confident about their training and their leadership. The men and women of the 54th displayed amazing maturity and strength of character when faced with the prospect of going into combat.

## **II. ALERT AND PREDEPLOYMENT:**

The 54th FSB was in the middle of a major training evaluation at the Hohenfels training area when informed that the 3D Armor Division would participate in the campaign in Southwest Asia. In fact, the battalion had been at the Grafenwohr and at the Hohenfels training centers since late September 1990. Some sections of the battalion had been at Grafenwohr since early September supporting the gunnery training for the Canadian Army Trophy (CAT).

On 7 Nov 1990, CNN confirmed the rumors that the 3AD would deploy to Southwest Asia. The families back home received this information before we did in the field. By the time I received the official word, most of the soldiers already knew. The news media had beat the chain of command to the punch. This was not a good start. Families at home were upset because they heard about it over the news rather than from their spouses.

After the initial command briefings to the soldiers and the excitement died down, we settled back into our training. We were to complete our

Combined Maneuver Training Center (CMTC) evaluation with the 3rd Brigade before we redeployed to home station. The battalion had been doing well during this evaluation but the news intensified already intense training. We began planning for our deployment to SWA while conducting the current training exercise.

We arrived back home the week before Thanksgiving. Our immediate concern was preparing ourselves and our equipment for shipment to Saudi Arabia. I will not detail the trials of returning from a muddy and cold training density to prepare for operations in a desert. Additionally, we had never planned or trained for this type of overseas deployment. There were quite a few adjustments to make. In order to deliver our equipment to the ports by late November, we started 24 hour a day shift work.

Our maintenance direct support shops were full of brigade equipment requiring work after a particularly long and arduous field deployment. Fortunately, we had planned for a heavy workload after the brigade training exercise. However, we were unprepared to retrofit equipment for the desert. There was a scramble to find repair parts, supplies, oils, and lubricants that we thought would be necessary for operations in that environment.

Unsure of what the logistic system would supply in SWA, we ordered shipping containers and filled them with what we thought we would need. Certain items like uniforms, TA-50 equipment, barrier material, water cans and package Class III were scarce. In fact, we would continue to experience a severe shortages of these items during the entire operations. We were also uncertain of how long we would be in SWA or the duration of the operation we would support.

The chain of command provided some useful after action reports on units that had already deployed to SWA. These helped significantly with our shopping list. We filled the containers with everything from computer equipment to barrier material. The local procurement team was critical in refining our DS basic load for the desert. In fact, local procurement in Germany and SWA helped make up many shortfalls in the supply system.

Critical items such as NBC clothing and equipment, night vision devices, navigation devices, and flak vests were short within the division. Unfortunately, these critical pieces of equipment are not authorized in the FSB or not filled because of combat unit priorities. We never received the required numbers of night vision and navigation devices or flak vests. In spite of the efforts of the part of the leadership, we received minimal supplies of NBC clothing and equipment.

The soldiers did a phenomenal job of getting themselves and the brigade ready for deployment. It was phenomenal because while all this was occurring, training was accelerated. Although we had come out of a major gunnery and field exercise, there was still much to do. First of all, we had been trained for defensive operations. Now we had to do a major switch and prepare for offensive operations. While many may think that this would only concern the combat maneuver units, it also had a profound effect on the FSB.

The 3d Armor Division continually conducted realistic, tough training. We spent a great deal of time in the field conducting tactical and support operations training. Therefore, leaders and soldiers had confidence in our ability to perform our support mission and to provide for our own security. We had been through live fire exercises within the last thirty days and

everyone had just completed weapons qualification.

We had performed our support mission in grueling circumstances which taught us valuable lessons in flexibility and responsiveness. In short, our previous training contributed immeasurably to the confidence the soldiers felt upon learning that they would put this training to the test in the desert.

We were fortunate that our command and staff training for the past year or so had continually emphasized rear area security and the Brigade Support Area (BSA) operations. The brigade commander held the FSB commander responsible for the BSA. While BSA operations had been emphasized during CMTC rotations, we were worried. Due to the lack of training space in Germany, we had never really deployed or fought a battle as a whole brigade. We knew there would be a big difference supporting a brigade, with all slice elements, rather than just a couple of battalions at a time.

Still, our constant deployments and training exercises were of significant help. However, we now had to predict combat consumptions of fuel and ammo during offensive operations. We, therefore, devoted much time and effort to offensive planning for support and BSA operations.

Our previous training also helped prepare the staff and leadership of the battalion for the high pressure, demanding pace they were to face in SWA. They had learned to marshall their resources and use their almost inexhaustible store of energy in a team effort to accomplish the mission. They were a credit to the type of leadership in today's Army.

We had much to do in individual and team training prior to deployment. We needed additional training in; hot weather and desert survival,



sanitation, desert land navigation, and the culture and customs of SWA. NBC training was conducted daily and we performed a great deal of our daily mission in NBC gear.

There were continuous inspections of the soldiers' personal equipment and weapons. At the same time, we were preparing for overseas movement and updating medical, legal, dental and financial matters. All this took a lot of time and energy--there was not much of either left over for the families and friends of the soldiers.

Our training challenges were compounded by the daily changing personnel situation. The battalion was short authorized personnel and the system filled those shortages with reservists and personnel from other nondeploying units in Germany and CONUS. Few of these individuals came from a unit comparable to an FSB and their soldiers skills were seldom up to the caliber required.

Our medical company had the largest relative personnel shortage and training these new soldiers became a particular challenge. Most of the replacements were out of hospitals and they lacked combat medic skills. Our wartime fill of superb doctors and Physician Assistants (PA's) proved to be a blessing in training our medics. The docs and PA's developed and executed a training program that I feel sure would have meant more lives saved had we been tested during the war. The doctors and PAs supervised the overhaul of medical kits and equipment and ordered additional supplies for the number of casualties we expected.

While we occasionally received a Mobilization Designee doctor for peacetime exercises, they were not on ones that we took to Desert Storm. Therefore, we were now training a new team of doctors and medics.

New personnel continued to arrive almost up to the day we deployed. One of the reasons for this is there were some previously unidentified nondeployables. First of all, previously buried medical problems now surfaced. For example, one soldier had an entry in his medical file that he had a mild heat exhaustion. He sought and received a nondeployable medical status. Other soldiers surfaced medical ailments at the last minute that made them nondeployable. Many of these were permanent problems that should have long since made them candidates for separation from service. Unfortunately, these problems only surfaced when the soldier was faced with the prospect of war.

For the most part, the medical system did an excellent job of screening these personnel. The majority of soldiers were left behind for legitimate medical reasons. However, some individuals should not be allowed to stay in the Army when a medical complaint affects their world-wide deployability. When one of my Senior Sergeants could not deploy because he was on insulin, this left a void in his section that was difficult to fill. We need to do a better job at screening and eliminating those personnel who have a permanent medical condition that will prevent world-wide deployment.

While the dependent care plans of single parents and service couples with children looked good on paper, some did not work when the parents were sent to war. Each of our soldiers in those circumstances had approved dependent care plans that were periodically reviewed. Yet, when it came time for deployment, there were instances where personal problems with the children and/or their care givers prevented deployments. While these soldiers were subject to chapter action, this

type of turmoil only added to the problems of unit continuity and cohesion.

Then too, there are other issues that suddenly arise. One or two soldiers now claimed to be conscientious objectors but had never filed the required paper work. Others would have severe personal or family problems. Several female soldiers became pregnant. In some cases we were able to use the stay behinds as rear detachment personnel, but often they were candidates for discharge. Two things must be made clear; first, female soldiers, by proportion did not have more excuses to stay home than male soldiers. Second, I am describing a very small minority of soldiers who caused disproportionate problems due to their newly discovered "nondeployability".

Pre-deployment was probably the more difficult and trying time of the whole Desert Storm experience. One of the greatest challenges was preparing families to face the absence of their loved ones. Again, my battalion was fortunate that we had a fairly solid family support network in place because of our frequent training deployments. Nonetheless, we spent much effort on meeting with families, chaplains and community support personnel to help the families cope with the deployment.

At first, there was justified apprehension on the part of the spouses. They did not know what was happening or what to believe. Discovering from CNN that we were possibly going to war had an initial negative effect. Also, our flight schedule changed constantly and we did not know when we would leave. This kept everyone tense and it was a difficult time for all.

At any rate, every one worked together to ensure there were systems in place to take care of all families after we left. Each family received support networks and telephone trees. The leadership met with almost

every family.

The leader's spouses did an absolutely outstanding job in developing and implementing most of the programs that would support the families throughout our deployment. I was amazed at how much we expected these young wives to do and how well they met the challenge. My executive officer's wife, Arlene Bierie lead the battalion in this effort. To her, I owe more than I can express for her selflessness and devotion to the battalion.

The community responded surprisingly well to this unexpected set of circumstances that kept families in Europe while their soldiers went to SWA. There were many people who worked very hard during the entire operation to take care of the families. However, without the cooperation and effort of the families themselves the scarce resources offered by the community would never have been as responsive to the needs of the families.

### **III. DEPLOYMENT AND INITIAL ENCAMPMENT IN DAHARAN**

#### **(1-20 JAN):**

After numerous false starts, the first increment of the battalion deployed to SWA on the night of 1 Jan 1991. About 150 soldiers and I boarded a C-141 and took off on a cold, rainy night. We landed at daylight at a newly constructed military airport in Daharan. The Air Force crew took excellent care of us. This was the first of many times I would be

grateful for United State Air Force during Desert Storm.

Unfortunately, the plane was instructed to land us at the wrong side of the airfield and we had a two mile march with our combat loads to the proper place. Circumstances deteriorated from that point. Fortunately, we brought MRE's and water with us as it would be fourteen more hours before we arrived at a camp. I will not detail the problems with transportation, locating our personal baggage, or even finding our final destination. Officer and NCO initiative finally got us going in the right direction. However, this set the tone for a long time to come. We knew that if anything was to get done, we were going to have to do it on our own.

When we arrived at the initial camp site, a tent city in the middle of the desert, I discovered that my battalion was erroneously placed. The rest of the brigade was sheltered in a complex of buildings twenty miles away. I spent the next twelve hours trying to get the battalion moved to the proper location to join the brigade.

The next night we piled on civilian buses--operated by drivers who did not speak English and who had no idea where to take us. It took four hours to travel twenty miles but we made it to the complex. Here we were to stay until our vehicles and equipment arrived into the Dammam port. The rest of my battalion finally arrived over the next five days.

At this time, the complex (nicknamed the MGM) held about twenty thousand soldiers. We housed our soldiers in high rise apartment buildings and slept on sleeping bags on the floors of the apartments. That January and February there was a lot of rain in Saudi Arabia. While we were

sheltered from wind and rain the problems were the same as in any large concentration of people.

One challenge was sanitation. There were wooden latrines set up outside as indoor plumbing could not handle the workload. However, there were no shower facilities set up outside. Water in the building was stored in tanks and would run out quickly. Therefore, few soldiers were able to shower.

There was also a shortage of MRE's and bottled water, so we carefully rationed. Eventually, hired contractors fed all the soldiers. Mess lines were blocks long but the food was adequate. In any case, we all were anxious to get to the desert as soon as possible where we could take care of ourselves. The SCUD attacks reinforced this feeling.

January 16, 1991 was the deadline for the Hussein to pull his forces out of Kuwait. When he did not, the US Air campaign started the next day. We were jubilant when we heard the reports on the damage our Air Force was inflicting on the enemy. Some even hoped that the air war might make a ground war unnecessary. However, our elation was short lived. Within a few days Iraq launched the SCUD attacks and our complex appeared to be a prime target.

I was responsible for the security for all units in my building but there was not much you can do about incoming SCUDs except move everyone to lower floors. We were grateful for the Patriot missiles and watched a number of them explode SCUDs over our heads or nearby. However, it was suspected that the SCUDs carried chemicals and we spent many long hours in MOPP II, III or IV. This went on for many days while I prayed for our ships to come in so we could get our equipment and leave.

I was not the only one concerned about getting out to the desert. No one was sure when the ground war would start and the Division commander wanted as many units as possible moved forward. My battalion's equipment was on eleven different ships--often with trailers on one ship and the prime mover on another.

However, as I received enough equipment to make a reasonably secure convoy, I sent increments of the battalion to the Tactical Assembly Area (TAA). This piece-meal approach of deploying to the desert caused many command and control headaches. The road march to the TAA was more than 400 miles following the south route whose support network was not yet fully developed. I would not close all my companies into TAA HENRY until the end of January.

While waiting for our equipment to arrive, we continued to occupy soldiers' time with training--particularly NBC, navigation, and physical training. As we slowly received trucks, we were able to transport our soldiers to desert training sites. We also busy with maintenance work in preparation for the long road march to the TAA.

During this time we established liaison with other headquarters and set up accounts within supply channels. My support operations section discovered who could or would provide support. We also established local procurement accounts in Daharan and Riyadh in order to buy items such as tires, batteries and repair parts.

It was challenging work for my staff officers and NCO's. They had to learn a supply system that was not in the text books. We quickly discovered that there was a very definite problem with supply

accountability and control within the theater. It was apparent to us that no one knew what supplies were available or where items were located.

It was a great disappointment that we had to rebuy much of what we packed in our containers in Germany. Many of those containers never arrived or were vandalized. I blame the leaders who did not control this situation and some who even encouraged it. Most of the containers that we did receive had at one point or another been broken into and ransacked.

Soldier morale during this initial phase was much better than I had hoped. It improved greatly as we received equipment and could do more training. The soldiers took the threat of SCUDs and terrorist action against the compound pretty well in stride. Only one soldier who was in marginal physical condition had to be evacuated due to a heart problem during a SCUD attack.

There were some apprehensions during these trying times, but never reluctance to perform what ever necessary duty. At the time I thought these soldiers exceedingly well adjusted. And over the course of the next six months, I was to be proven right time and again.

We also quickly learned how important over all physical conditioning is in adjusting to a different climate, wearing NBC gear, and undergoing sleep deprivation. Simply passing a PT test was not an good indication of a soldier's adapatability and stamina. Everyone who deployed had passed the PT test, but those with previously unhealthy lifestyles suffered. Smokers and soldiers in marginal condition had a hard time of it throughout the course of our stay.



#### **IV. TRAINING AND PRE-WAR PREPARATION AT TAA HENRY:**

Most of the battalion closed at TAA HENRY by the 27th of January. TAA HENRY was located in the desert about 40 miles SE of Hafar al Batin. However, several battalion personnel were still in Daharan trying to procure equipment and supplies we needed or to find them in the supply system.

It was abundantly clear from the beginning that the supply distribution system was broken. As we moved farther away from the bases of supply, we found that transportation units from the Corps and even the division Main Support Battalion (MSB) could not keep up with the demand. We often found ourselves moving rearward with our organic transportation to pick up supplies. This was not in accordance with logistic doctrine, nor were we equipped or manned to perform this mission. Even the supported battalions had to lend us vehicles and drivers.

Supply automation and accounting were poor at all levels. It appeared that no one had track of commodities that were in country or when supplies were due in. Ammunition was a case in point. It was a two day round trip to a log base to get ammo. All units were required to pick up their own ammo as Corps could not deliver forward and the FSBs are not configured to long haul ammo. Many units complained that they returned from log bases empty handed only to learn later that the ammo they needed was actually there.

The division had deployed with close to 30% zero balance ASL/PLL. Because of severe problems with the Class IX system, we never filled many of our shortages the entire time in SWA. Part of the problem was

that parts simply were not available. However, there were also problems with requisitioning and accounting for repair parts.

Critical repair parts were flown in to us from Germany or the States. It required a superhuman effort on everyone's part to keep the brigade at a high rate of equipment readiness. A portion of our Support Operations Section and the battalion maintenance team were constantly on the road (or in the air) looking for repair parts as far as 400 miles away. Other critical maintenance supplies such as battery acid, multigrade oil and hydraulic fluid were also chronically short.

Repair parts shortages weren't our only worry. We were anxious to get our hands on items like LORANS, GPS and night vision devices. Safety items such as flak vests and panel markers were also in short supply. Clearly, 3AD was not high on the priority list and 3d brigade was the last priority in the division. Consequently right up to the time we crossed the Line of Departure (LD) we were still receiving these critical items and still had unfilled shortages.

The FSB is not authorized enough of navigation, night vision or communication items. During our training operations in the desert before the war, it was clear that CSS units have a critical need for these items. We frequently traveled over wide stretches of roadless desert at night performing our resupply mission.

An example of the inadequacy of the FSB MTOE is in the shortage of secure communications equipment in the medical company. This company is responsible for setting up patient transfer points and clearing stations and coordinating the evacuation of wounded personnel. Not enough communication equipment is authorized to accomplish this mission. This

forced us to strip other critically needed ammo out of the battalion and give it to the medical company.

FSB command and control vehicles posed yet another problem. The desert mobility of the CUCV is poor. But whatever the terrain, a FSB does so much of its work forward on the battlefield that HMMWV's are the only practical vehicles. The leadership recognized this and we swapped out most of our CUCV's for HMMWV's just prior to the war. Although we did not have all the installation kits, this swap was extremely important to our operations and the mobility of our leadership.

Medical resupply and patient evacuation was of particular concern for us. We had little confidence that the medical resupply or evacuation system supporting us could handle the large number of casualties expected. There were insufficient transportation assets to evacuate casualties from the FSB. Additionally, the medical communications system was poor. The lack of chemical casualty treatment bags and the shortage of combat lifesaver bags were never remedied. It is a blessing that the medical system was not put to the test during the war.

By doctrine and the MTOE, the senior physician is to become the FSB's medical company commander while the former commander becomes the executive officer. In our case, this proved to be a wise decision. The doctor placed in command was superb and with the help of the XO quickly grasped the tactical operations and company administration. However, the critical point is that a physician is best capable of making life and death decisions. He should direct the placement and timing of evacuation assets, the other doctors and PA's, and the timing of moves. When he is a commander, and not merely an advisor, he assumes full responsibility for

his decisions.

We knew at some point we would move to our Forward Assembly Area (FAA) BUTTS. We took the time before the move to continue training and prepare ourselves for battle. It was clear by now that a ground offensive would be necessary.

Part of the training during this period involved HMMWV exercises in the desert. During these several day exercises, we rehearsed our movements planned for the war. I took this opportunity to try out several pieces of equipment whose mobility concerned me. We moved over rough terrain, the very type we expected to encounter in our march through Iraq. As expected, fully loaded 5,000 gallon trailers and S&P's had difficulty traveling through deep sand or over steep inclines. Maintenance vans and other vehicles intended for hard surfaces fared little better. We knew that vehicle recovery was going to be a large part of our efforts in any march through the desert.

The Brigade Support Area (BSA) was growing daily as we configured for war. My S-3 and Headquarters Company Commander kept busy working out security plans and beddown arrangements. The BSA included MP's, Air Defense units, engineers and other units in support of the brigade. It was fortunate we had rehearsed BSA security during our previous Hohenfels training exercise. However, we had never moved with such a large assemblage, and spent a good deal of time planning convoy movements. We soon put our plans to the test.

Around the 13th of February, we received orders to move to FAA BUTTS. We knew it would only be a short time before the ground offensive began. By this time the BSA consisted of about 800 hundred soldiers (a FSB is

normally 420 soldiers) and close to 500 vehicles, to include the field trains from the supported battalions. Our plan to provide logistic support on the move was to break this mass into two parts--a Logistic Task Force and the Main Body. The Logistic Task Force was to include the most critical fuel, maintenance, and medical elements led by myself and my support operations officer. The battalion executive officer would have control of the main body.

This configuration proved to be a great success during the war and kept the brigade fully fueled and supplied. However, command and control of these two elements was a challenge for the leadership. It was fortunate that we were able to rehearse this during our move to FAA BUTTS.

FAA BUTTS, just south of the Iraqi border, would be our jump-off point to enter Iraq and begin the ground offensive. On the move north to BUTTS, we made a night crossing of Wadi al Batin. This wadi had dozens of channels of sand paths through rocky terrain. Negotiating the wadi in blackout conditions with heavy tankers and other oversized vehicles took all night. First, it was necessary to cross the wadi as rapidly as possible. Therefore, the BSA had to take a dozen or more different paths and then meet up on the other side in the proper configuration.

However, the FSB does not have enough communications to do this sort of operation properly. A helpful piece of equipment would have been Brick RTS hand-held radios. This would have solved our command and control problems and also cut down on unit radio traffic on the battalion's radio net. This inexpensive piece of equipment, so critical to most supply operations, was unavailable. We were able to obtain only four for the entire BSA.

Therefore, officers and NCOs spent all night driving up and down the channels finding lost or stuck vehicles and recovering them. We knew we had to reassemble and make our refuel schedule before dawn.

We made it with only minutes to spare. After the resupply operation, the last vehicle of the BSA moved into line just as the call came over the radio to move out again. This resupply on the move operation helped prepare us for the four day race across the desert during the war. We learned to operate a little smarter and rearranged ourselves to better recover immobilized vehicles. Resupply during offensive operations was going to be a challenge.

We arrived at BUTTS without further excitement and set up for what we thought would only be a day or two stay before crossing the Line of Departure (LD). In fact we left most of our life support equipment back at TAA HENRY as we wanted to travel light and have more room for supplies. The heavy rains that had plagued us during our stay at HENRY slackened. The weather was cold, but fortunately tolerable, as many soldiers slept with minimal cover.

Under the circumstances, morale was excellent. The commanders and their soldiers needed no prodding to check and recheck equipment and to do last minute preparations and training. Everybody knew that at any time we could be ordered to cross the LD and engage the Iraqi Army. Confidence of success was high. However, it was not until the 24 of February that we were told to cross the LD. It was a tough waiting period. We were anxious to get the job done.

## V. THE HUNDRED HOUR WAR:

On the 24th of February the brigade stopped just short of the LD to spend the night. The BSA went into night security operations and I urged everyone to try to get some sleep as I did not think we would see any for some time to come.

At dawn on the 25th, we crossed the LD and entered Iraq. It was difficult to believe that we came from the snows of southern Germany and were now in enemy territory about to fight the infamous Republican Guard. Many soldiers felt a sensation of making history as their vehicle cleared the berm at the LD.

The division recognized our problems with 5,000 gallon fuelers. The night before we moved to the LD, we traded out twenty of those fuelers for forty HEMTT 2,500 gallon fuelers. Since we now had twice as many fuelers, finding drivers and operators was a problem. However, this trade out made the difference in our ability to keep the brigade supplied. We were able to maneuver our fuel Logistic Resupply Points (LRPs) very close to the combat trains thereby cutting down the time it took to refuel the combat vehicles.

I was augmented with twenty 5,000 gallons tankers from theater assets because Corps tankers could not keep up with the speed of our move. In order to bring fuel forward, I sent my tankers rearward to get fuel. At one point we ended up escorting fuel for two brigades and had more than thirty tankers racing to the front. That was until they had to cross deep sand. The majority of the tankers were immobilized. We received a distress call from my Platoon Leader just before the brigade

began to move again.

Therefore, we had the BSA moving forward while trying to recover thirty or so tankers several miles to the rear. Every unit in the BSA helped in this effort and every recovery vehicle and track available participated in pulling the tankers to solid ground. This type of operation continued throughout our four day, 300 kilometer movement to contact through Iraq. We moved fast, leaving recovery assets and personnel behind to retrieve vehicles and catch up when they could.

I can not say enough about the bravery and determination of the soldiers and leaders who performed these recovery missions and of those who stayed behind and operated maintenance collection points along the route of march. Left with minimum security, they recovered and repaired equipment and transported it forward. Often they had no idea what lay ahead and were dependent on only one radio because of communication shortages in the FSB. In every case, they performed superbly. However, Army recovery equipment proved to be a disappointment. The M88 vehicle did not do well and many M88 engines seized during the march.

The reliability of communications was a continual problem. While the LTF configuration of the BSA was successful, communications within this mile-wide, seven mile long convoy was difficult. We always had commo with brigade because we were never out of sight of the brigade headquarters. However, I seldom had commo with DISCOM or any support elements. They were too far behind for FM and MSE did not function properly in fast moving offensive operations.

Moving through the desert, almost non-stop over a four day period, presented never ending challenges. Desert warfare added a new dimension



to the problems of support. The great distances and the difficult climate and terrain certainly added to transport and communications problems. Night operations with insufficient night vision and navigation devices was one of them. The FSB constantly had contact teams, recovery teams, or resupply sections out on mission. The MTOE authorization does not visualize how independent each section must be in time of war. Therefore, the proper amounts and types of equipment are not authorized.

The security of this massive element was of concern given the few crew served weapons and lack of TOWs. However, the supported field trains provided some additional firepower. We had Chaparells from an ADA unit providing air security. Fortunately, enemy air attacks never materialized as Chaparells can not fire effectively on the move.

The FSB vehicles have insufficient armor to move through an area that has been saturated with Air Force ordnance. We often traveled through such areas and had to be particularly careful to avoid hitting live munitions. Miraculously, all we experienced were a number of blown tires. However, a soldier did killed himself and severely injured another soldier when he disobeyed orders and picked up an active piece. This was the only death or injury we had in the entire BSA.

An NBC attack in the brigade was a concern. Our vehicles afforded minimal protection from chemical agents as we could not 'button up'. Additionally, there was the problem of how to decontaminate the brigade. Bulk water production and transport was limited. While we carried some bulk water, it fell far short of what we needed. We would have to rely entirely on decontamination sites set up by division and use field expedient methods such as sand or fuel to clean what we could.

Fortunately, this never became an issue.

Two other areas never tested during Desert Storm were of particular concern. One was remains recovery and evacuation and the other was ammunition resupply. The low density of KIA's did not stress the GREGG system. However, the lack of necessary supplies, reefer vans, and transport would have severely strained the system.

It is difficult to say how the ammunition resupply would have fared had the offensive operations been more intense. It was reported there were thirty S&Ps loaded with ammo waiting to be called forward. Because of the terrain and the pace of our movement, these vehicles may have had a difficult time keeping up with us.

We were headed toward Objective Collins and clearing everything in our path. Enemy Prisoners of War (EPW's) came from everywhere and each unit captured their share of prisoners. All EPWs were passed to the rear. However, the MPs could not feed or care for them. The FSB provided food, water, and medical care for the EPWs. Although Division and Corps made a great effort to get these EPW's evacuated as soon as possible, we were quickly overwhelmed. No one was really prepared for the number of EPWs we handled.

As VII Corps continued to defeat the Republican Guard, we entered Objective Collins and pushed on to Objective Dorset. Finally, the brigade stopped at Objective Minden on the 27 of February. We were amazed at what we had accomplished over the last three days. We were thankful for our success in battle and for safely reaching our objective. The brigade suffered few injuries and, all in all, we felt lucky.

At the cease fire, the third brigade was just over the border into

Kuwait. At that point, I estimated that we had enough fuel for perhaps eight to twelve more hours of operation and could go for several more days without resupply of food and water. However, Corps and Division bulk fuel resupply was pushed to the limits. We still had not received the last resupply train that had been sent rearward to pick up fuel. Additionally, Corps ammunition resupply trains were somewhere behind us. Had we kept moving and needed ammo and fuel, I am uncertain when we could have been resupplied.

## **VI. POST WAR OPERATIONS: (March-June 1991)**

If I thought the soldiers in my unit heroes during the war, I was even more impressed with their conduct and dedication to duty after the cease fire. Our brigade was given a security mission in southern Iraq. Therefore, we did not know how long we would remain in theater. Leaders at all levels worked diligently to counter the negative impact a indeterminate tour has on morale.

Although we frequently changed our location in the desert, we settled into a pattern of living and working. The brigade was now receiving A and B rations and eating hot meals at least once a day. Other supplies seemed to flow in a little more readily. However, repair parts and ancillary maintenance items were still in short supply.

Bulk water production for showers and laundries was a problem. We found a well in our area and finally a water production unit was attached to us to produce bulk water. We were given Japanese and German water trailers in order to haul water to the brigade. Our drinking and cooking

water, as well as ice, came from Host Nation Support delivered by commercial trucks with Arab drivers.

We did not receive a bath unit until weeks after the cease-fire. The bath unit was a division decontamination team. In May, we received a National Guard laundry team who provided excellent service. Both of these services were a welcome relief to brigade soldiers who were washing out of buckets.

Just as we experienced prior to the war, we found very little delivered to us. We often went to division rear to pick up supplies and fuel. The lack of transportation in country affected everyone. All levels were traveling rearward rather than having commodities pushed forward.

Living conditions improved somewhat, but life was still pretty primitive. Our medical personnel had a full time job performing sanitation inspections and providing assistance to the units. As the temperature climbed to the 110's and 120's the flies and other pests were a problem. Then too, the war had left many stray dogs who turned wild. They would try to get into the camps at night to feed. We had to shoot many of them for fear of attacks.

Boredom could have been a problem, but we were too busy with our mission to notice. We still had to support a large BSA in addition to the Brigade out on the checkpoints. We found that we had to increase our normal medical support to the checkpoints. The number of refugees requiring medical care was overwhelming. Our doctors, PA's and medics received invaluable experience in treating these Iraqi refugees. Unfortunately, we were not equipped with medical supplies to deal with some of the problems we encountered such as tubercular legs and leukemia.

Our medical company also supported the 3AD refugee center in Safwon, an Iraqi town on the Kuwait border. Here we encountered another set of problems. Thousands of the refugees were children. We soon discovered that our medical supplies were not designed for pediatric care. Any number of innovative measures were taken by the medical personnel to help care for the children.

It is sad that the aftermath of war still brings death. The live ordnance on the ground was a constant threat to everyone. In spite of intensive training, a few soldiers in the theater died or were maimed by handling live ordnance. Children were all too frequently victims. One of our doctors treated three children who detonated a bomblet. One died instantly, one died on the examining table, and one was evacuated to a Army hospital. We never knew what became of her.

While we worked round the clock to support 6,000 soldiers in a bare base environment, we waited to hear when we would go home. The Reservist and National Guard augmentee personnel were particularly frustrated. The Reserve doctors were getting worried about their medical practices back in the states and other soldiers were worried about their civilian jobs. Desert life was wearing thin.

Soldiers and families were anxious to reunite. Throughout Desert Shield/ Desert Storm, mail had never been regular and we suspected a good deal of outgoing and incoming mail was lost. As the theater began to empty, mail became more irregular. The mail that was received from home all had the same message--when were we returning?

So far we had been very fortunate to have few problems back home. However, the longer we stayed, more soldiers had to redeploy due to

personal problems at home. When these soldiers left on emergency leave, they could not return. The theater was trying to empty rapidly. Units were leaving around the clock but no replacements were being flown in. Our ranks were depleted further as National Guard and Reserve personnel were returned to the states. The end result was, that by the last month or two, we found ourselves shorthanded in any number of sections throughout the battalion.

We lost few soldiers to illness or injury. The men and women stayed in extremely good condition throughout our deployment. They were very conscious of safety as we still operated in a dangerous environment. We had very few instances of intestinal disorders or heat exhaustion. The women bore up quite well in spite of their particular sanitation needs. However, during their time of the month, they felt the strain of the heat and the deprivation.

There seemed to be no difference in the way young or older soldiers adapted to their environment. But again, those in marginal health, and heavy smokers, did not fair well. Heavy manual labor and limited sleep due to the mission or the weather took a toll on them.

In May, we hoped we would hear we were going home. However, we were told that we would stay on and support a composite Brigade being formed to provide security north of Kuwait City. We would also be responsible for building up a logistics base for follow-on security units. This was an unusually challenging mission for a Forward Support Battalion.

The soldiers reacted with remarkable maturity and a sense of dedication that speaks well of them and their leaders. They been in the field since September with only a few days off at Christmas. Yet they

threw themselves into this new job with a vigor that reflects the high quality of men and women in the Army today.

About his time, the sand storms in the desert were frequent and violent. High temperatures and blasting sand made living and working difficult. We were able to move to a large, abandoned warehouse complex just north of Kuwait City. While we could escape from the wind, not so the heat. The temperature was averaging 115 to 120 degrees daily.

For the last six weeks in country, the battalion built up a logistics base that would support the new US security brigade when it arrived. This operation deserves an entire chapter in its own right, however, I will only say that it was a great experience in for all the logisticians in the unit.

We set up the warehousing system and received, catalogued and stored or issued supplies in an around-the-clock operation. Reefers, trucks, and S&P's would come in thirty and forty at a time from Saudi Arabia. Before the next support unit arrived, we had on the ground; 100,000 gallons of bulk water, in excess of a million bottles of water, 80,000 pounds of ice and countless other supplies ranging from construction material to computer paper. Additionally, we had the mission of containerizing all the repair parts and major assemblies that were left in theater and preparing them for shipment.

A word about bottle water. Those who think that bottle water is the answer to the army's water production and distribution problem need to consider the problem of handling bottled water in cardboard containers that rapidly deteriorate. Manhandling individual bottles is inefficient and breakage averages 20% or more.

We finally received word that we were going home and made preparations to turn over the log base to the new support unit. The men and women of the battalion had a right to be proud. They had performed each and every mission in an outstanding manner and under the most trying of circumstances.

## **VII. CONCLUSION:**

The flow of personnel, equipment and goods into the Southwest Asian theater of operations was a herculean effort. To deploy two corps in six months with all the necessary combat power and supporting units was a major undertaking. There is, however, some speculation that the successes of the logistical system were due in large part to dedicated soldiers, brute force, and the tremendous in-country civilian logistics infrastructure.

There were several problems with logistics during Desert Storm. The most serious problem was with the distribution system and involves equipment and doctrine issues. The problems that bottlenecked distribution lie in the areas of; accounting and controlling supplies and the transport and handling of materiel.

The transportation issues have received the most attention in the after action reports. The desert experience indicates that there is a great need to upgrade and modernize CSS transport assets. Heavy Equipment Transporters (HETs), the 5,000 gallon tankers and the M915 tractors are not well suited for long haul, rough terrain operations. The HEMMTT cargo



outclassed the 5 ton and 2 1/2 hands down, yet are not authorized in support units who must deliver supplies forward.

Water trailers and water chillers were non-existent and if it were not for HNS support, bulk water distribution would have literally dried up. Track recovery assets are too few and, as the deplorable performance of the M88 proved, not equal to the task. Also we must not forget the communication and navigation devices that are necessary to travel long distances over rough terrain.

An important element of transportation is the availability and maintainability of forklifts and materiel handling equipment. The quantities authorized insufficient for both the MSB and FSB. Additionally, the lack of repair parts and hydraulic hose fabrication and cylinder repair capability at the DSU level was a continual problem. Operations were also severely hampered by the lack of container handling equipment. At least one container handler should be authorized in each FSB.

The last transportation issue concerns throughput. In the offensive, throughput did not work and even pre and post war operations strained the transportation system. Corps could not deliver to the MSB and the MSB could not deliver to the brigades. One problem may have been inadequate transportation management at all levels. It appeared that division, corps and EAC units did not have the training, time, or resources to manage assets effectively. Each unit in the chain found itself going further and further rearward to obtain needed supplies. Army doctrine, operations, organization and training needs to be reviewed.

Specifically, the MSB is too large to manage all its functions. This battalion either needs to be broken into a transport battalion and a

supply battalion, or its transportation assets should be given to the FSB since they performed the MSB's transportation mission most of the time. This would give the FSB a truck platoon which I believe is vital to its operations.

The central problem in the distribution system in Desert Storm was the loss of accountability and control of materiel once it arrived in theater. Lack of automation doctrine, interoperability, and standardization had a profound impact on the ability to manage the supply system.

Requisitions were lost in the system, so needs went unrecognized. Computers could not get usage data back to establish a demand. The TACCS computers were unable to communicate with one another and the courier system was a poor substitute for what should have been instant electronic communications. These problems existed at all levels from the lowest right through to the SAILS accountability transfer cycles.

CSS automation is broke! This may be due in part to a lack of a unity of effort in automation systems development. If this is true, I recommend that a single Army manager for the development, acquisition, and integration of automation and communications be appointed for logistics systems.

The FSB supply company MTOE does not sustain an additional task force and other slice elements in a brigade support area. They are simply too undermanned for Class I, III and V operations. We need wartime augmentation for each class. We survived during Desert Storm because we cross leveled personnel and received additional soldiers from brigade. Additionally, this company has only two officers assigned, a commander and a platoon leader. Command and control of the myriad mission of this

unit was a problem with these few officers.

Another problem that should be mentioned here concerns the chain of command for the FSB. The FSB belongs to the DISCOM and is opcon to the brigade. The DISCOM and the Brigade were often at odds on guidance to our unit. Worse yet, we did not always receive the support we required because they both thought the other was taking care of our needs. The FSB should belong to the brigade and the DISCOM should serve as a logistical source of materiel and information.

Finally, I should say a word or two about the performance of women soldiers in Desert Storm. I am loath to distinguish them from their male counterparts, however, I would like to tell the story from my perspective which may be more to the point than many that tell the story from afar.

Women soldiers filled almost every MOS in my battalion. There was absolutely no difference in their performance of technical or soldier skills with the exception of those tasks which required a good deal of upper body strength. For the most part, the average woman is simply not as strong as the average man and her endurance and stamina drops dramatically faster in these activities than does a male soldier's. Did this hinder operations? Not usually as the workload can be divided to make the best use of each soldier's ability.

Where the upper body strength issue becomes important is on small contact teams or missions when only a few soldiers are available to perform tasks requiring brute strength. When one or more of those soldiers are women who do not have the prerequisite strength, operations may be slowed.

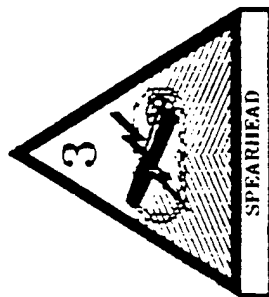
Additionally, both the women and the men find it difficult to adjust to

situations where they are confined to close quarters for an extended period of time. For example, a woman as part of a four person tank crew will find that her personal sanitation needs require readjustments on everyone's part.

I would not recommend that women be placed in situations such as those described above until they have had the proper upper body strength training. Additionally, before women are made part of combat teams such as a tank crew or an infantry squad, significant social and psychological readjustments must be made in the Army's training.

Women soldiers are equal to any task with the proper training. My female soldiers neither expected or received special treatment. These soldiers were brave, calm under duress, and contributed immeasurably to the esprit of the unit and the success of the mission.

It was not my purpose to detail all my positive and negative experiences but to highlight those that stand out the most in my mind nearly a year later. Hopefully, this monograph provides the reader a better understanding of the operations of a Forward Support Battalion and a greater appreciation for combat service support soldiers.



# DISCOM

## CHRONOLOGY

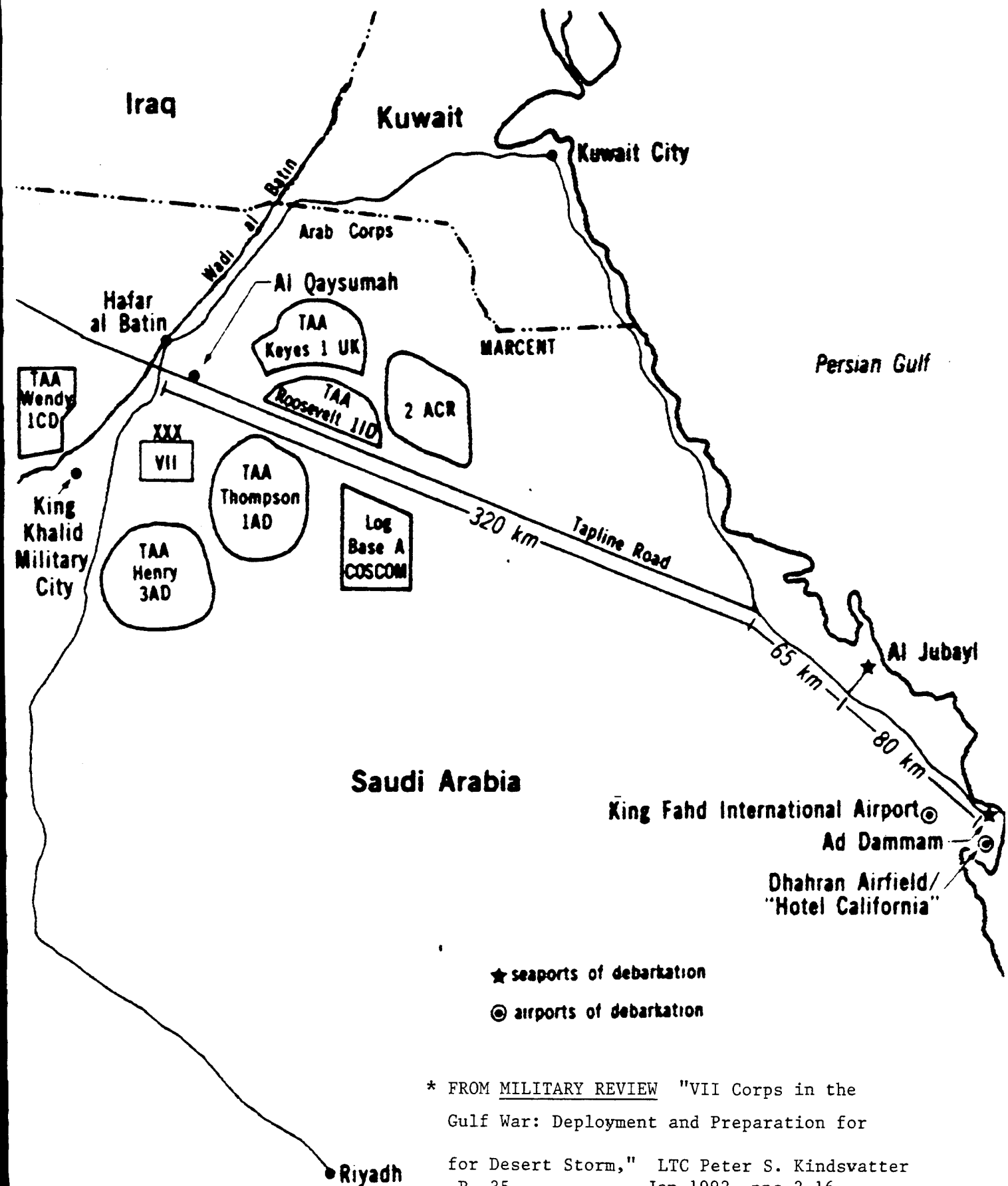


8 NOV 90	ALERTED
1 DEC 90	DEPLOYED EQUIPMENT
18 DEC 90	DEPLOYED ADVANCE PARTY/MAIN BODY
1 JAN 91	OCCUPIED TAA HENRY
13 FEB 91	OCCUPIED FAA BUTTS
25 FEB 91	CROSSED LD
27 FEB 91	OCCUPIED OBJ COLLINS
28 FEB 91	OCCUPIED OBJ DORSETTE AT CEASE FIRE
18 MAY 91	OCCUPIED OBJ CAMELOT
	COMMENCED HUMANITARIAN RELIEF EFFORT

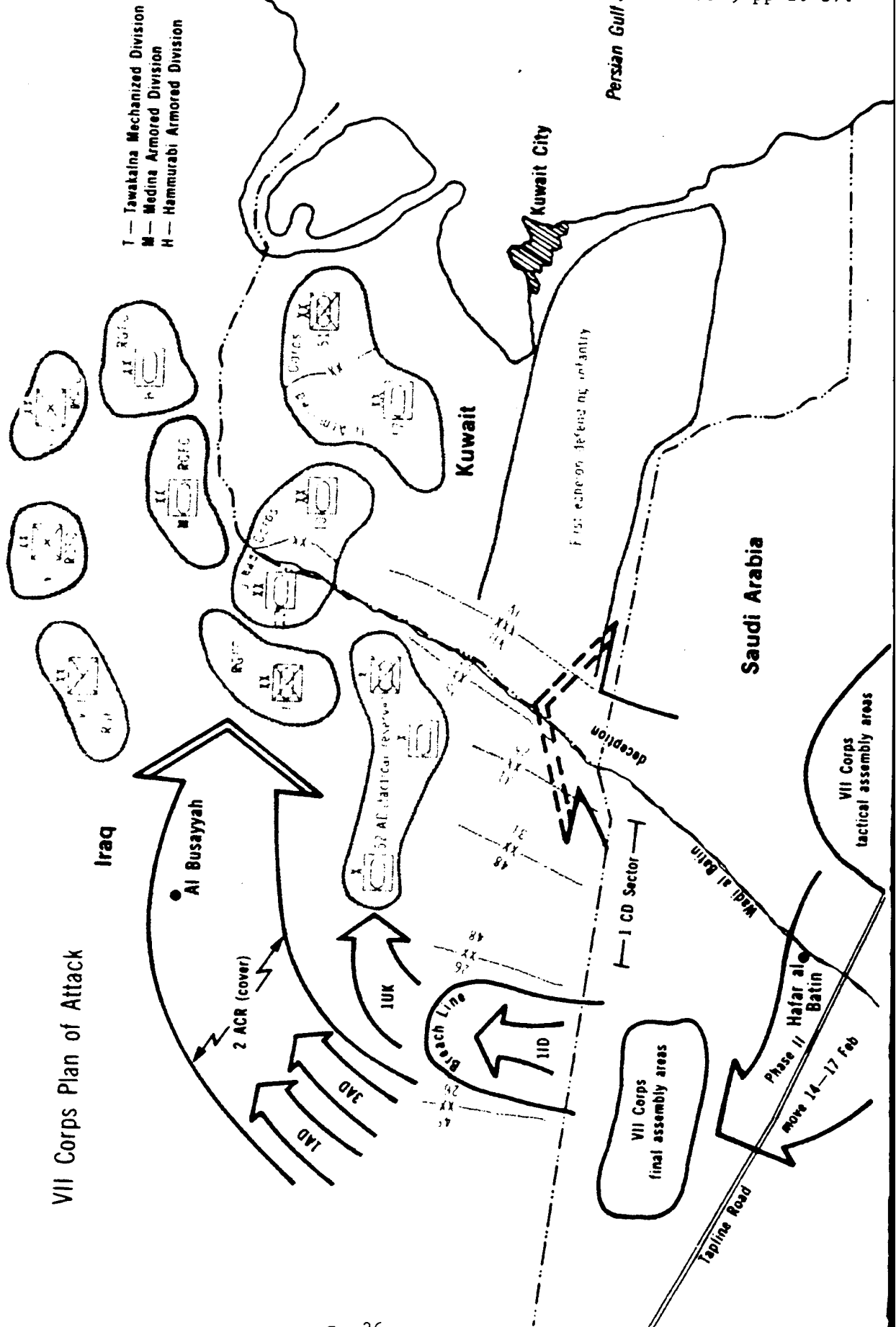
APPENDIX

A

\* FROM THE 3D ARMOR DIVISION SUPPORT COMMAND AFTER ACTION REPORT, MARCH 1991.



\* THIS GRAPH AND THE ONE ON P.37 FROM: Military Review, "VII Corps in the Gulf War: the Ground Offensive", LTC Peter S. Kindsvatter, FT. Leavenworth, FEB 1992, pp 16-37.



APPENDIX B

Basrah

Safwan

Umm Qasr

Kuwait-Iraq Border

OBJ Denver

OBJ Raleigh

OBJ Bonn

OBJ Dorset

OBJ Minden

OBJ Norfolk

OBJ Collins

OBJ Purple

OBJ Waterloo

OBJ Al Jahra

Persian Gulf

Highway 8

VIII

XXX

VII

ARCENT

XXXX

JFCN

Kuwait

Iraq

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